Fire Weather Services for Southeast North Carolina and Northeast South Carolina

Operating Plan

NWS Wilmington, North Carolina
February 2002

Operating Plan for Fire Weather Services
for
Southeast North Carolina
and
Northeast South Carolina

February 2002

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I. Introduction

Weather support for forestry operations in southeast North Carolina and northeast South Carolina has been provided in the past by National Weather Service (NWS) Forecast Offices in Raleigh, North Carolina and Columbia, South Carolina. As part of the NWS Modernization and Restructuring, this changed February 1, 2000. At that time, the NWS office in Wilmington, North Carolina assumed responsibility for issuing Fire Weather Forecasts for the aforementioned areas. This includes routine daily forecasts, spot weather forecasts, and forecasts of Red Flag events for the area.

I.1 Purpose

This Operating Plan is issued in lieu of a formal local Memorandum of Understanding (MOU) between the NWS Wilmington and the federal, state, and local land management agencies that rely on weather support for routine and emergency operations. This plan outlines NWS operations and services available to users including products and formats, dissemination and coordination, and the responsibilities of the users.

I.2 Objective

The Fire Weather Program at NWS Wilmington aims to provide weather support to land management agencies for use in wildfire suppression, fire presuppression activities, and planning and training related to these functions. The goal of this support is the protection of life and property as well as the reduction of the loss of natural resources caused by the adverse impact of weather on fire behavior.

This Operating Plan for Fire Weather Services conforms with the National Agreement for Meteorological Services in Support of Agencies with Land Management and Fire Protection Responsibilities, concluded in March of 1983. The National Agreement can be found in Appendix A.

This Operating Plan will be the governing document for fire weather procedures and cooperation between the following agencies:

NWS Weather Forecast Office Wilmington, North Carolina
National Park Service
U.S. Fish and Wildlife Service
North Carolina Forest Service
South Carolina Forestry Commission

I.3 Users

Users shall be defined as any person, group, agency, or body which uses the products and services provided by the NWS in support of fire operations.

The NWS has been directed by both the Executive Branch and Congress to discontinue fire weather services to **non-federal** entities (IE. state, county, and local agencies) for **non-wildfire** activities, including the following:

- spot forecasts for prescribed burns;
- spot forecasts for non-fire forecast management activities;
- transport and stability forecasts for smoke management;
- consultation and liaison for non-wildfire activities;
- and land management forecasts issued outside federal fire services.

Details can be found in Federal Register (Vol. 60, No. 128, p. 34969-34970)(see Appendix B).

II. Organization

II.1 National Weather Service Headquarters

NWS Headquarters, located in Silver Spring, Maryland, establishes policies and coordinates the national fire weather program. The national program manager coordinates the program with the regional program managers. The national program manager also works with the national headquarters of the federal forestry and land management agencies as well as the Association of State Foresters in determining overall forestry and land management requirements for meteorological support. The national program manager coordinates national training in forestry and fire weather for NWS forecasters.

II.2 National Weather Service Regional Headquarters

Regional Headquarters manage the technical operational aspects of the fire weather program within each region. They also provide guidance and assistance to meteorologists-in-charge (MIC) on program operations and problems through Regional Operations Manual Letters (ROMLs) and conferences. Regional Headquarters advise NWS Headquarters on matters pertaining to technical planning and operations. The regional program managers coordinate regional fire weather programs and advise the Regional Directors on the operational and administrative aspects of these programs.

II.3 Weather Forecast Office (WFO)

WFOs prepare and disseminate forecast products for all sectors of the population, including those for the Fire Weather program. These offices are responsible for providing forecasts to user agencies within their County Warning and Forecast Area (CWFA). Most offices have a designated fire weather program leader. A list of organizational contacts is in Appendix C.

II.3.1 Meteorologist-in-Charge (MIC)

The MIC is responsible for the provision of adequate forestry and fire weather services in the office's assigned area of program responsibility. The MIC will ensure that the program leader is provided adequate time for user liaison and assistance activities.

II.3.2 Fire Weather Program Leader (PL)

Fire weather program leaders (also known as focal points) are the customer service representatives for the program. Acting as the representative of the MIC, the PL will be in regular contact with land management agencies to help them assess meteorological needs, to inform them of NWS products and services available to meet these needs, and to educate them in the most effective use of the various NWS products and resources, including NOAA Weather Radio (NWR). PLs will work with users to aid them in utilizing existing NWS products and services produced for other programs that could meet the requirements of wildland management. The PLs are also tasked with ensuring staff meteorologists are trained and maintain proficiency in preparing forecast products in support of the fire weather program.

The NWS WFO in Wilmington, North Carolina will provide these services 24-hours a day, 365 days per year. WFO Wilmington, NC can be reached at:

National Weather Service
2015 Gardner Drive
Wilmington, NC 28405

Richard Anthony, Meteorologist-in-Charge
Richard Neuherz, Fire Weather Program Leader

910-763-8331 ext 1
910-762-4289
910-762-1288 (fax)

NOTE: These phone numbers are UNLISTED coordination numbers and should not be released to anyone other than persons or agencies that have a legitimate fire weather concern.

III. Operational Program

III.1 Fire Weather Forecast Area

As a result of the MAR, fire weather forecast areas have been restructured. Forecast areas are now tied to the "radar umbrella" of the WSR-88D Doppler Radar. The umbrella is the area covered by the radar volume scan. This means that forecasts issued by the NWS will no longer be bound by state political boundaries.

The WFO Wilmington, NC area covers southeast North Carolina and northeast South Carolina. A map of the area for which NWS Wilmington will issue Fire Weather forecasts is in Appendix D.

The counties covered by WFO Wilmington, NC include:

<u>In North Carolina:</u>			
Bladen	Brunswick	Columbus	Duplin
New Hanover	Pender		
<u>In South Carolina:</u>			
Darlington	Dillon	Florence	Georgetown
Horry	Marion	Marlboro	Williamsburg

National Parks covered by the WFO Wilmington, NC:
Moores Creek National Battlefield

U.S. Fish and Wildlife National Wildlife Refuges covered by the WFO Wilmington, NC:
Waccamaw NWR

III.2 Fire Weather Season

Traditionally, the fire weather season over the eastern Carolinas is split into two seasons. The first of these extends from late winter through the time of full greening in the spring. The second occurs during the relatively dry fall months as leaves fall from the trees. However, pre-suppression fire weather forecasts will be prepared year round by WFO Wilmington, NC.

III.3 Fire Weather Forecasts

The National Weather Service issues three types of fire weather forecasts: pre-suppression forecasts (or routine or daily forecasts), spot (or site specific) forecasts, and National Fire Danger Rating System (NFDRS) forecasts.

III.3.1 Pre-suppression Forecasts

The pre-suppression forecast is a general forecast prepared twice daily by the duty forecaster and issued by 830 AM and 300 PM. The pre-suppression forecast covers 6 counties in southeast North Carolina and 8 counties in northeast South Carolina. This geographic area encompasses portions of North Carolina Forest Service Districts 6 and 8, part of South Carolina Forestry Commission Pee Dee Region, Moore's Creek National Battlefield, and the future Waccamaw National Wildlife Refuge. The pre-suppression forecast is used for day-to-day planning of land management operations and for determining general weather trends which might impact fire behavior.

The pre-suppression forecast will follow the format established by the Eastern Region of the National Weather Service with modifications agreed to by land management agencies in North and South Carolina. The forecast will forecast values for all of the following weather elements: sky conditions; maximum and minimum temperatures; minimum and maximum relative humidity values; wind speed and direction; probability of precipitation; precipitation type, duration and amount; mixing heights; transport wind; ventilation and smoke management levels; wind profiles (from March 1 through May 31); and a stability index. The forecast values will reflect the duty forecasters expectation of the most probable weather conditions. Sample morning and afternoon forecasts are displayed in Appendix E.

The pre-suppression forecast will be divided into meteorologically similar zones such that the zone groupings may vary on a day-to-day basis. The office forecast philosophy will be to group the zones to reflect the expected weather conditions and not to reflect political boundaries.

III.3.1.1 Issuance Time For Pre-suppression Forecasts

The pre-suppression forecast will be issued twice daily by 830 AM and 300 PM, with updates as needed.

III.3.1.2 Pre-suppression Forecast Content

The pre-suppression forecast will provide a weather discussion and complete fire weather parameters for the first three periods in the morning forecast and the first four periods in the afternoon forecast. The morning forecast will cover today, tonight, and tomorrow (day 2) while the afternoon forecast will cover tonight, tomorrow, tomorrow night, and the next day (day 2). For the purposes of the presuppression forecast, the daytime periods are defined as 6 AM to 6 PM EST and the nighttime period is defined as 6 PM to 6 AM EST. One hour should be added to the above times during EDT.

III.3.1.2.1 Headlines

Headlines may be included at the beginning of the pre-suppression forecast or at the beginning of any of the zone groupings. Headlines may be included for expected changes in the weather, significant forecast problems (IE., dryness, heat, etc), and non-fire weather advisories, watches, and warnings. Headlines for Fire Weather Watches and Red Flag Warnings will be included in the pre-suppression forecast. In addition, headlines for emergencies declared by state or local agencies will be included upon request. Examples include Red Flag Fire Alerts and Burning Bans.

III.3.1.2.2 Discussion

The DISCUSSION section of the forecast will be a general discussion of weather features expected to affect the area through 5 days. The discussion will be more detailed within 48 hours and become more general in the three to five day range. The discussion should contain information highlighting weather conditions, features, or changes important to fire behavior. Some examples of the type of information that may be included are frontal passages, wind shifts, extreme heat, extreme dryness, strong winds, and thunderstorm formation.

III.3.1.2.3 CLOUD AMOUNT

The Cloud Amount will reflect the most probable sky conditions expected in the zone grouping during each period. The following terms will be used to describe sky conditions:

Weather Code (WX)	**Definition**
CLR	Clear skies
MO CLR	1/10 to 3/10 opaque cloud cover
PT CLDY	4/10 to 7/10 opaque cloud cover
MO CLDY	8/10 to 9/10 opaque cloud cover
CLDY	10/10 opaque cloud cover

III.3.1.2.4 PRECIP CHC (%)

The chance of precipitation expressed as a percentage to the nearest 10 percent, ranging from 0 to 100 percent.

III.3.1.2.5 PRECIP TYPE

The Precip Type will reflect the most probable precipitation type expected in the zone grouping during each period. If the PRECIP CHC is less than 20 percent, NONE will be forecast. The following terms will be used to describe expected weather:

PRECIP TYPE	Definition
NONE	No precipitation or only isolated precipitation
DRIZZLE	Drizzle - Trace amount of precipitation
RAIN	Rain
SHOWERS	Rain showers
TSTMS	Thunderstorms
FRZ RAIN	Freezing Rain
SLEET	Ice pellets
SNOW	Snow
RAIN/SNOW	Rain/Snow mix
FRZ DRZL	Freezing Drizzle

III.3.1.2.6 MAX/MIN TEMP

Forecast temperatures will reflect the expected maximum daytime temperature and the expected minimum nighttime temperature. Typically, the maximum temperature occurs during the mid to late afternoon while the minimum temperature occurs just before sunrise. There will be times when the temperature does not follow this normal pattern. When this is expected to occur, it will be noted in the REMARKS section of the forecast and may also be noted in the DISCUSSION section of the forecast.

III.3.1.2.7 AM WIND / PM WIND

Wind forecasts will be comprised of expected wind direction and sustained wind speed. During daylight periods, a morning wind (AM WIND) and afternoon wind (PM WIND) will be included in the forecast. Wind direction forecasts will be to 16 points of the compass and reflect the direction from which the wind is blowing. Wind speed forecasts will reflect the maximum sustained wind speed expected in miles per hour (mph) during the forecast period. If significant wind gusts or wind shifts are expected, it will be noted in the REMARKS section of the forecast and may be noted in the DISCUSSION section of the forecast.

III.3.1.2.8 PRECIP AMOUNT

The amount of precipitation expected during the 12 hour forecast period. Regardless of the PRECIP TYPE, forecast precipitation amounts are always liquid water amounts. PRECIP AMOUNT will only be forecast when the PRECIP CHC is 50 percent or higher.

III.3.1.2.9 PRECIP DURATION

The amount of time during the 12 hour period that precipitation is expected. The duration time represents the total number of hours precipitation will fall during the forecast period. Like PRECIP AMOUNT, PRECIP DURATION will only be forecast when the PRECIP CHC is 50 percent or higher.

III.3.1.2.10 HUMIDITY (%)

Forecast relative humidity values will reflect the expected minimum daytime relative humidity and the expected maximum nighttime relative humidity. Typically, the minimum daytime relative humidity occurs during the mid to late afternoon while the maximum nighttime relative humidity occurs just before sunrise.

III.3.1.2.11 Davis Stability Index (DSI)

Atmospheric stability will be forecast for the layer from the surface to approximately 5,000 feet. The forecast value will apply to the afternoon hours. The stability indices and their characteristics are listed below:

1 = STABLE - temperatures aloft decreasing with altitude at a rate of less than 3.5 degrees F per 1,000 feet (6.4 degrees C/km).

2 = CONDITIONALLY UNSTABLE - temperature decreases with altitude at the rate of 3.5 degrees F to 5.4 degrees F per 1,000 feet (6.4 to 9.7 degrees C/km) . Conditionally unstable air tends to become unstable if forced to rise. Additional heat, such as a fire, supplied at the surface can be sufficient to produce the needed rise.

3 = UNSTABLE - temperature decrease with altitude of 5.5 degrees F per 1,000 feet (9.8 degrees C/km).

4 = ABSOLUTELY UNSTABLE - temperature decrease with altitude greater than 5.5 degrees F per 1,000 feet (9.8 degrees C/km).

III.3.1.2.12 Smoke Dispersion and Inversion Information

Inversion related information (INVERSION) will be forecast for all forecast periods of the forecast. Mixing height (MIXING HGT), transport winds (TRANSPORT WIND), and ventilation rate (VENTILATION RATE) will be forecast for the daytime periods only.

Inversions will be forecast under the INVERSION header if expected below 1000 feet. If expected during the daytime period, a burn off time and temperature will be included. If the inversion is expected to persist all day, "CONTINUED" will be forecast. For the nighttime period, the onset time will be forecast unless the inversion is "CONTINUED" from the daytime. If no inversion is forecast, "NONE" will be inserted under INVERSION for the nighttime period. All times will be local time.

Mixing height (MIXING HGT) forecasts will be given to the nearest 100 feet. Transport winds (TRANSPORT WIND) will be forecast to the nearest 1 mile per hour (mph) with an 16 point wind direction denoting from which direction the winds are expected to blow.

Ventilation rate (VENTILATION RATE) will be forecast in units of ft-mph. To compute the applicable burn category for the area, users can consult the reference table attached to the end of the forecast. See Appendix E for sample forecasts and the included tables.

Smoke dispersion will not be directly forecast due to differences in wind tables governing the forecast for each state. Users in North Carolina and South Carolina can consult the conversion table which will be provided at the end of the forecast (See Appendix E).

III.3.1.2.13 Remarks

The remarks section will contain any information necessary to further clarify the forecast. Possible examples include wind shift information, more detailed inversion information, and precipitation timing information.

III.3.1.2.14 Wind profile analysis

Wind profile analysis information will be provided on a seasonal basis in the months of **March, April and May** or during times of high fire danger when requested by any of the user agencies listed in section I.2. A strong low level jet (wind speed maximum) can adversely affect fire behavior. The wind profile analysis will state whether the profile is FAVORABLE, QUESTIONABLE, or UNFAVORABLE. A FAVORABLE wind profile forecast indicates expected conditions that **are** favorable for burning. If the wind profile forecast is FAVORABLE, no other information will be provided. An UNFAVORABLE wind profile forecast indicates expected conditions that **are not** favorable for burning . If the profile is UNFAVORABLE, a profile type from Appendix F will be assigned. In addition, the maximum wind speed, direction, and height will be given. A QUESTIONABLE wind profile forecast indicates expected conditions appear to be unfavorable for burning but that more analysis is needed. If the forecast profile is QUESTIONABLE, an update will be issued once it is determined if the profile is FAVORABLE or UNFAVORABLE. This update will generally be issued by 11 AM local time.

III.3.1.2.15 Extended Forecast

The extended forecast will be a general forecast of expected weather covering the period from the day 2 night period through seven days out in time. The extended forecast will include a temperature forecast and precipitation forecast. If no precipitation is expected, no precipitation descriptors will be included in the extended. Instead, forecast sky conditions may be included.

III.3.1.2.16 The 8 to 14 Day Outlook

The 8 to 14 day outlook will cover day 8 through day 14 from the day the forecast is issued. The forecast will be a general outlook of expected temperature and precipitation in relation to climatological normals.

III.3.2 Spot Forecasts

Spot forecasts are special, non-routine forecasts prepared upon request from users agencies that need site specific weather forecasts for: 1) controlling the spread of wildfire; 2) planning and managing prescribed fires; or 3) other specialized forest management activities. **Spot forecasts are only available to federal agencies except in the case of wildfire or other emergency where lives and/or property may be threatened.** In the event of a wildfire or other emergency which threatens life and/or property, spot forecasts can be provided to state and local agencies as well.

Spot forecasts are highly detailed forecasts prepared for a specific location within the forecast area. The forecasts may contain any or all of the following weather elements: sky conditions; maximum and minimum temperatures; minimum and maximum relative humidity values; wind speed and direction; probability of precipitation; precipitation type, duration and amount; mixing heights; transport wind; inversion height; inversion onset and burn off times or temperatures; ventilation and smoke management levels; wind profiles; stability indices (IE., Haines Index) and lightning activity levels (LAL).

III.3.2.1 Requests for Spot Forecasts

Spot forecasts will be prepared when requested by a user agency. **Only federal agencies are eligible to request spot forecasts for prescribed burning.** Federal, state, and local agencies may request spot forecasts in support of wildfire suppression or other emergencies where lives and/or property may be threatened. Due to the detailed and specific nature of this forecast product, it is imperative that the user provide the forecaster with necessary and sufficient information so that a reliable forecast can be prepared.

Requests for spot forecasts should be made on the Fire Weather Special Forecast Request Form, WS Form D-1 (Appendix G). Section I of WS Form D-1 should be filled out as completely as possible by the user agency prior to submitting the request by fax to the forecast office. If the request is made by phone, all the information in Section I should be provided to the forecast office.

While there is no dedicated fire weather forecaster, the forecast office will give a high priority to spot forecasts in the absence of weather phenomena in the CWFA that pose a threat to life and property. To ensure that the request for a spot forecast is handled properly and appropriately, users agencies should adhere to the following guidelines:

1) Allow adequate time for the forecaster to prepare the forecast. This will normally be between 20 and 30 minutes. On particularly busy fire weather days, spot forecasts will be handled on a first-come, first-served basis, with wildfires or other life threatening events taking the highest priority.

2) Provide as much on-site or near-site weather information as possible. At a minimum, the user must provide at least one observation within an hour of the request. This observation must contain the following (as per WS Form D-1): location of observation; elevation at the observation site; time of the observation; wind direction, speed, and level (eye or 20 foot); dry and wet bulb temperatures; any remarks about the state of the weather, particularly anything that may affect fire behavior. If possible, include some observations from the previous day that might give the forecaster an indication of daily trends.

3) As much as possible, specify the time period for which the forecast is needed.

4) As much as possible, specify the weather elements of most importance for which a forecast is needed and/or critical values of these elements.

5) Provide a contact point name and phone number where the forecaster can call back, if necessary. Also include a fax number for returning completed forecasts.

6) In order to receive prompt attention for a fax request, please phone the office to let the forecaster know the request is on the way.

III.3.3 National Fire Danger Rating System (NFDRS) Forecasts

NFDRS forecasts are issued once daily for NFDRS sites which have provided an NFDRS observation that same day. Presently, NFDRS forecasts are issued for NFDRS observation sites at the following locations: the DOD site at Sunny Point Military Ocean Terminal; the Nature Conservancy site near Supply, NC; the North Carolina Forest Service site at Whiteville, NC; and the North Carolina Forest Service site at Jones Lake, NC. National guidelines for the NFDRS program allow for the issuance of both point and trend forecasts for each site. However, until a climatology can be built up for the sites, only NFDRS point forecasts will be issued.

III.3.3.1 Issuance Time For NFDRS Forecasts

The NFDRS forecasts will be issued once daily by 2000 UTC provided an appropriate NFDRS observation has been received by the National Weather Service. Updates to NFDRS forecasts are not required.

III.3.3.2 NFDRS Point Forecast Content

NFDRS Point Forecasts are a forecast for weather expected at 1800 UTC the following day. The format of Point Forecasts and a sample forecast are shown below.

FCST,IdIdIdIdIdId,YYMMDD,HH,WX,DB,RH,L,N,DDD,FF,,TX,TN,HX,HN,D1,D2,F
Sample - FCST,319701,020112,13,2,56,50,1,1,ENE,2,,67,34,82,46,0,0,N

A decoded list of the fields in the above sample follows below.

FCST - Indicates this is a point forecast
IdIdIdIdIdId (319701) - Site Identifier
YYMMDD,HH (020112,13) - Date and hour forecast is valid (Jan 11, 2002 1300 EST)
WX (2) - Forecast state of the weather code (Broken clouds)

0 - Clear	5 - Drizzle
1 - Scattered Clouds	6 - Rain
2 - Broken Clouds	7 - Snow
3 - Overcast	8 - Showers
4 - Fog	9 - Thunderstorms

DB (56) - Dry Bulb temperature (56 degrees F)
RH (50) - Relative Humidity (50%)
L (1) - Lightning Activity Level (LAL) 1300 today to midnight tonight (None)
N (1) - LAL midnight tonight to midnight tomorrow (None)

LAL Decoder

1 - No Thunderstorms
2 - Isolated Thunderstorms
3 - Widely Scattered Thunderstorms
4 - Scattered Thunderstorms
5 - Numerous Thunderstorms
6 - Same as 3 but dry (little or no rain reaching ground)

DDD (ENE) - Direction from which the wind will blow (east-northeast)
FF (2) - Wind Speed (2 MPH)
TX (67) - Expected maximum temperature through 1300 EST Jan 11 (67 degrees F)
TN (34) - Expected minimum temperature through 1300 EST Jan 11 (34 degrees F)
HX (82) - Expected maximum relative humidity through 1300 EST Jan 11 (82 percent)
HN (46) - Expected minimum relative humidity through 1300 EST Jan 11 (46 percent)
D1 (0) - Expected precipitation duration in hours from 1300 EST today to 0600 EST tomorrow (0 hours)
D2 (0) - Expected precipitation duration in hours from 0600 EST to 1300 EST tomorrow (0 hours)
F (N) - Wet fuels flag (No - indicates fuels are not expected to be moist from precipitation)

III.4 Fire Weather Statements, Watches, and Warnings

During periods in which critical fire weather conditions are expected or imminent, the NWS will issue statements, watches, and warnings to describe the level of urgency to the appropriate user agencies. These issuances will be coordinated with land management agencies.

III.4.1 Definition of a Red Flag Event

A Red Flag Event occurs when critical weather conditions develop which could lead to extensive wildfire occurrences or to extreme fire behavior. Red Flag Events represent a threat to life and property and may adversely impact fire fighting personnel and resources. Critical weather conditions include combinations of the following: strong, gusty winds; very low relative humidity; high to extreme fire danger; significant wind shifts; and lightning. Specific criteria can be found in Appendix H.

III.4.2 Red Flag Warning

A Red Flag Warning will be issued, after coordination with the appropriate land management agencies, when a Red Flag Event is occurring or is imminent. The warning will be issued for all or a portion of the forecast area. It will be issued immediately once the forecaster and appropriate land management agency have determined that a Red Flag Event is ongoing. Otherwise, it shall be issued for impending Red Flag conditions when there is a high degree of confidence that conditions will develop within 24 hours. The warning will continue until the conditions cease to exist or fail to develop as forecast. At such time, the warning will be canceled. A sample Red Flag Warning and cancellation are in Appendix H.

III.4.3 Fire Weather Watch

A Fire Weather Watch will be issued, after coordination with the appropriate land management agencies, to advise of the possible development of a Red Flag Event in the near future. It will be issued for all or part of the forecast area. A Fire Weather Watch is issued when the forecaster and appropriate land management agencies are reasonably confident that a Red Flag Event will occur. A watch should be issued 12 to 48 hours in advance but shall not be issued more than 72 hours in advance of the expected onset of critical weather conditions. The watch will remain in effect until either it is determined the Red Flag Event will not develop or that the watch should be upgraded to a warning. If conditions are not expected to occur as forecast, the watch will be canceled. A sample fire weather watch and cancellation is in Appendix H.

III.4.4 Red Flag Fire Alert

A Red Flag Fire Alert will be issued by the South Carolina Forestry Commission with meteorological input from the NWS Forecast Office in Columbia. The Alert will be issued when conditions that support potentially destructive or widespread forest fires exist. As part of its support of forestry operations, NWS CAE will disseminate the Red Flag Alert under the CAERFDCAE header.

III.4.5 Fire Danger Statements and Blow-Up Alerts

When fire danger or fire occurrence is high and is coupled with critical weather conditions, user agencies may request that the NWS issue a Fire Danger Statement or Blow-Up Alert. These statements will be issued in coordination with the requesting agency and will only be issued with their approval.

IV. Special Fire Weather Services

Special fire weather services are those services that are uniquely required by land management agencies and go beyond the normal forecast operations of the NWS. Special services include Advanced Technology Meteorological Unit (ATMU) and Incident Meteorologist (IMET) deployment, station visits, weather observer training, participation in user agency training, and other pertinent meteorological services.

Typically, special services require NWS personnel to be away from the forecast office and to be in overtime status in some cases. User agencies are responsible for covering the cost of NWS overtime, travel, and per diem expenses. Reimbursement of costs for special services will be as outlined in the **National Agreement for Meteorological Services in Support of Agencies with Land Management and Fire Protection Responsibilities (Appendix A).**

IV.1 Advanced Technology Meteorological Unit (ATMU) Services

The ATMU is a modular and mobile system of equipment used by an IMET for data collection and product preparation. ATMUs are a national resource with 25 of them being cached around the country, mainly in the western states. The nearest ATMU cache to WFO Wilmington is London, Kentucky where two are maintained.

An ATMU consists of two modules. The first contains a theodolite with tripod and a calculator for computing winds aloft, 2 belt weather kits, weather balloons, a nozzle and regulator for a helium tank, office supplies, and miscellaneous expendables. It is 27.6 cubic feet and weighs a little over 200 pounds. The second module, known as the computer module, contains a laptop computer with a satellite docking station, a satellite dish for down linking weather data, and a printer. The computer module is 5 cubic feet and weighs 55 pounds. A third module, the microREMS, is a self-contained portable weather station with instruments for measuring temperature, dewpoint, and wind. It is powered by a solar panel and a battery, is 8.2 cubic feet, and weighs 125 pounds.

Requests for the ATMU, microREMS, and IMET should be made through the USDA Forest Service Region 8 Dispatch. The Meteorologist-in-Charge or the Fire Weather Program Leader at WFO Wilmington should also be notified of the request. Typically, the IMET nearest the incident will be deployed. WFO Wilmington does not have an IMET assigned to the station so it would be an IMET from a nearby office. USDA Forest Service Regions should have a list of available IMETs. During times of limited resources, an IMET from a different area of the country may be assigned to fill the request.

The requesting agency is responsible for coordinating transportation of the ATMU and IMET to and from the incident. The requesting agency is also responsible for any storage of the unit while in transit and for shelter for the IMET and ATMU at the incident site. A sheltered work area, at least 50 square feet in area with a table and chair must be provided. The work area must be protected from excessive dust, free of standing water or condensation, and must be heated and /or cooled sufficiently to allow efficient operation of equipment. Power (120 V AC) is required for the ATMU's electrical equipment and priority telephone access during certain short periods each day must be made available.

Upon arrival at the incident and after going through the appropriate check-in procedures, the IMET will:

1. Brief the Fire Behavior Analyst (FBAN), Planning Section Chief (PSC), and the Incident Commander (IC) on current and expected weather affecting the fire.

2. Establish a schedule with the IC and FBAN for written forecasts and formal briefings.

3. Request a briefing of the fire situation and potential behavior problems from the FBAN. As time and resources permit, incident management should arrange for an areal inspection trip of the fire by the IMET and should provide the forecaster with current fireline maps. If possible, the IMET should be assigned a radio with a fireline frequency.

4. In cooperation with the FBAN and PSC, arrange for a schedule of observations from key points around the fire and from nearby lookouts and fire danger stations. On large fires, some personnel (at least two) should be permanently assigned this duty. On smaller fires, this information can be provided by Division Supervisors equipped with belt weather kits.

IV.2 Fire Weather Training

NWS meteorologists will be available to assist in user oriented training, such as fire behavior training (eg, S-390) and other weather related courses. Requests should be made through the Meteorologist-in Charge as early as possible after dates for such training have been determined.

IV.3 Other Special Services

Other special services include weather station visits by user agency personnel, weather observer training, and course development work. These activities would typically be at the full expense of the requesting agency unless other arrangements have been made.

V. Fire Weather Observations

V.1 Fire Weather Observation Stations

Fire weather observation stations provide the specialized weather observations for fire weather forecasts, wildfire control and suppression, and various other land management operations. These stations were selected very carefully in each state and federal district. Sites were chosen to represent homogeneous conditions across a district. Stations may either be manned sites operated by land management agencies or unmanned Remote Automatic Weather Stations (RAWS), maintained by any of the federal or state land management agencies in the area.

All observation stations are assigned a 6-digit identification/location number. The first two digits indicate the state, the second two digits indicate the county, and the last two digits indicate the consecutively assigned station number for that county. Land managers who wish to have a number assigned to a station should contact the local NWS office. RAWS stations are also assigned an 8-character alphanumeric identifier based on satellite transmission time (the DCP number, issued by the National Environmental Satellite Service (NESS)). Observations from a RAWS site will be entered manually into the Weather Information Management System (WIMS) under the 8 character identifier but must be entered manually at 1400 LDT (1300 LST) under the 6-digit station number for the National Fire Danger Rating System (NFDRS) calculations.

V.2 Fire Weather Observation Quality Control

The fire weather program is a cooperative effort between the NWS and land management agencies. Accurate and timely weather information is one of the most important tools available to the land manager. Observations are the most important single effort that the control agencies put into the fire weather program. The observations entered into WIMS are direct input for the NFDRS output.

Observers should keep in mind that the weather observations they are taking are as much for their own use as for use by the NWS. For this reason, it is very important that fire weather observers be adequately trained to provide consistently timely and representative observations. Every effort should be made to ensure the quality of the observations before entry into WIMS. If an observation is known to be in error, it should not be entered into the system.

V.3. Training Personnel and Maintaining Sites

The responsibility for training observers is with the user agencies. However, the NWS will be available to assist when requested to do so. Any expenses incurred by the NWS will normally be charged to the user agency, unless other arrangements have been made.

The user agencies are also responsible for maintaining observation site equipment. NWS personnel may accompany the user on maintenance trips or for annual inspection visits which could also serve as liaison with the users.

V.4 Supplies

Most items for taking and recording observations will be furnished by the user agency. The NWS will furnish a few select forms and/or charts upon request.

VI. Communications

The primary means of communication used by the NWS is the Advanced Weather Interactive Processing System (AWIPS). Products transmitted by this means include pre-suppression forecasts, Fire Weather Watches, Red Flag Warnings, and Fire Danger Statements.

Spot forecasts will be disseminated only to the requesting agency by means of telefax (FAX). Therefore, it is necessary for the requesting agency to supply a FAX number when asking for a spot forecast. A voice number should also be included in case problems are encountered with the fax transmission.

Other means of communication may be utilized upon mutual agreement with user agencies.

List of Appendices

March 1983

NATIONAL AGREEMENT

FOR

METEOROLOGICAL SERVICES

IN SUPPORT OF

AGENCIES WITH

LAND MANAGEMENT AND FIRE PROTECTION RESPONSIBILITIES

Table of Contents Page

I. INTRODUCTION

This National Agreement is between the National Weather Service (NWS) and agencies with land management and fire management responsibilities signatory to this agreement. They are referred to in this agreement as "NWS" and "USER AGENCIES," respectively. The User Agencies are responsible for the maintenance, improvements, and protection of the wild lands of, owned or held in trust by, the United States. Accurate and timely weather information is required to manage effectively and efficiently this valuable national resource. The NWS has the expertise, organization, and legal charter to satisfy this need nationally. It is with this knowledge that this Agreement is entered into. Its purpose is to combine resources so as to best serve the needs of the public and to fulfill the obligations of the respective agencies.

II. AUTHORITY

This agreement is authorized under the Economy Act,31 U.S.C. 686; 15 U.S.C. 313; and 49 U.S.C. 1463; and the Cooperative Forestry Assistance Act 16 U.S.C. 2101, et. sec.

III. OBJECTIVES

The objectives of this Agreement are to identify meteorological services to be provided, establish the interagency relationships, and define financial and other obligations of the NWS and User Agencies.

IV. RESPONSIBILITIES

A. National Weather Service

1. Basic meteorological services will be provided during normal working hours in accordance with Operating Plans for designated NWS offices to the extent of NWS fire weather resources. NWS regional headquarters will identify to the User Agency headquarters a list of the designated NWS fire weather offices on an annual basis. These services will be made available without cost and may include:

   a. Routine daily fire weather forecasts
   b. Outlooks and discussions
   c. Weather observations
   d. Red flag forecasts
   e. Spot forecasts
   f. Prescribed burn forecasts
   g. Smoke management forecasts and information
   h. Consultation and technical advice
   i. Amendments/updates.

2. Fire weather training

The NWS recognizes the need for training in fire weather meteorology for NWS forecasters. To the extent of available resources, the NWS will meet this need.

3. Special meteorological services

These services will be provided by designated NWS offices on a reimbursable basis as stated in Section IV B.

a. Weather observer training
b. Weather observation station visitations
c. Participation in User Agency training activities

(1) Course development carried out at User Agency facilities

(2) Classroom training

d. On-site meteorological service
e. Other special services.

B. User Agencies

The following services and resources will be provided by User Agencies:

1. Fire-management computer systems

Where existing fire management computer systems are locally available, access to the systems will be provided.

2. Fire weather observations

a. Provide daily surface weather observations and enter data into fire-management computer systems.

b. Provide all equipment, equipment maintenance, and inspection of weather-observing sites.

c. Meet all travel and per diem costs associated with User Agencies' requests for visits of NWS personnel to weather-observing sites.

d. Provide for collection of remote automatic weather systems data and entry into the fire-management computer system.

e. Provide observations for site-specific and other snecia1 forecasts.

3. On-site meteorological support

    a. Meet costs directly associated with on-site meteorological support by NWS personnel. This includes costs incurred by the backup NWS office.

    b. Provide logistical and weather observation support to NWS personnel at on-site operations.

    c. Provide access to telecommunication services where available.

4. Training

    a. Meet per diem and travel costs for NWS personnel participating in the conduct of User Agency training.

    b. Provide technical assistance, instruction, and supporting material for NWS-sponsored fire weather training sessions.

5. Other special services

    User Agencies will provide logistics support and meet all overtime, travel, and per diem costs of NWS personnel associated with the provision of all other special services.

C. Joint Responsibilities

NWS and User Agencies shall prepare an annual Operating Plan for individual fire weather office areas of responsibility. This plan will identify the basic. weather services covered under Section IV.

V. PROCEDURES FOR REQUESTING SERVICES

Procedures for ordering services will be specified in Operating Plans for each NWS fire weather office.

VI. BILLING PROCEDURES

Costs to be recovered from User Agencies will be calculated on the basis of expense reports submitted to NWS regional headquarters by field personnel. Copies of expense reports will be forwarded to appropriate User-Agencies by NWS regional headquarters. This procedure will enable agencies to accurately determine costs to be reimbursed during a given fiscal year. Billing of User Agencies will be accomplished by NWS regional submission of appropriate expense reports to the NOAA Reimbursables Division. Bills will include a statement of service rendered, dates it was provided, and location where provided.

All questions relating to billing procedure, charges, current costs, and individual expense reports should be directed to the appropriate NWS regional contact or the NWS Technical Monitor.

VII. AMENDMENTS

Upon written notice, the terms of this Agreement are subject to amendment at any time by mutual agreement of the parties.

The signatory agencies agree to consider expansion of this Agreement to cover areas of mutual concern, e.g., changing technology and improved procedures, as opportunities for such cooperation become available.

VIII. TERMS OF NATIONAL AGREEMENT

A. The terms of this Agreement shall become effective upon execution by NWS and any or all User Agencies and shall remain in effect until such times as the Agreement is terminated by mutual agreement. Any agency may withdraw at any time by ninety (90) days written notice to all parties.

B. This Agreement does not constitute a financial obligation for any party in excess of appropriations authorized by law and administratively allocated for the purposes intended.

IX. TECHNICAL MONITOR FOR NWS

The NWS Technical Monitor for this Agreement shall be:

Fire Weather Program Leader (W/OM12)
National Weather Service
1325 East West Highway, SSMC2
Silver Spring, Maryland 20910

X. SIGNATORY PAGE

A. National Weather Service

/s/ Elbert W. Friday. Jr.
National Weather Service
Date: 5/5/83

B. User Agencies

DEPARTMENT OF AGRICULTURE

/s/ Gary E. Cargill
U.S. Forest Service
Date: MAY 20,1983

DEPARTMENT OF INTERIOR

/s/ Arnold E. Petty
Bureau of Land Management
Date: May 27, 1983

/s/ Russell E. Dickenson
National Park Service
Date: 6-8-83

/s/ Sidnev L. Mills
Bureau of Indian Affairs
Date: 6-29-83
Acting Deputy Assistant Secretary (Operations)

/s/ F. Eugene Hester
U. S. Fish and Wildlife Service
Date: 6-22-83

DEFINITIONS

When the following terms are used in this Agreement or in an operating plan, such terms will have the meanings stated below:

A. Fire Weather Office Operating Plan

A procedural guide which describes the services provided within the area of a fire weather office's responsibility.

B. Basic Meteorological Services

Basic meteorological services are those state-of-the-science meteorological forecasts, warnings, observations, and statements produced in a designated NWS fire weather office during normal working hours.

C. Fire Weather District

A fire weather district is the area of routine service responsibility as defined by the NWS. This area is usually defined by climatological factors, but may be modified somewhat to the administrative boundaries of the User Agencies.

D. Normal Working Hours

Normal working hours are defined in the Operating Plan, but usually cover 8-hour workdays, Monday through Friday, except during fire season when the normal hours cover 7 days a week.

E. Prescribed Fire

Prescribed fire is a fire burning in wildland fuels according to a planned prescription and confined within planned boundaries for the purpose of achieving specific objectives of resource management. (Prescribed burning is the practice of prescribed fire use.)

F. Red Flag

Red flag is a program which highlights the onset of critical weather conditions conducive to extensive wildfire occurrences.

G. Special Meteorological Services

Meteorological services uniquely required by User Agencies which cannot be provided at a designated NWS fire weather office during normal working hours.

H. Spot Forecasts

Spot forecasts are site-specific weather forecasts. They are issued upon request of User Agencies for wildfires, prescribed burns, or special projects.

I. On-Site

That special service which dedicates a fire weather forecaster to a wildfire, prescribed fire, or special project such that the fire weather forecaster is removed from providing basic services at his/her assigned fire weather office.

(a) A Party or interested person may challenge the final determination in whole or in part by filing a Complaint in accordance with Rule 39 within 30 days after the filing of the first Request for Panel Review (the deadline for filing a Complaint is July 26, 1995);

(b) A Party, investigating authority or interested person that does not file a Complaint but that intends to appear in support of any reviewable portion of the final determination may participate in the panel review by filing a Notice of Appearance in accordance with Rule 40 within 45 days after the filing of the first Request for Panel Review (the deadline for filing a Notice of Appearance is August 10, 1995); and

(c) The panel review shall be limited to the allegations of error of fact or law, including the jurisdiction of the investigating authority, that are set out in the Complaints filed in the panel review and the procedural and substantive defenses raised in the panel review.

Dated: June 28, 1995.

James R. Holbein,

U.S. Secretary, NAFTA Secretariat.

[FR Doc. 95-16458 Filed 7-3-95; 8:45 am]

BILLING CODE 3510-GT-M

National Oceanic and Atmospheric Administration

National Weather Service Transfer of Specific Products and Services to the Private Sector

AGENCY: National Weather Service, National Oceanic and Atmospheric Administration, Commerce.

ACTION: Notice.

SUMMARY: This notice publishes the National Weather Service's plan to transfer Agricultural Weather Services, Fire Weather Services to non-Federal agencies for non-wildfire activities, distribution of weather charts to marine radiofacsimile broadcast stations, and the production of the National Weather Summary to the private sector effective October 1, 1995. As part of this plan, the Director of U.S. Private Weather Services will be made available to ensure a smooth transfer of these products and services to the private sector.

DATES: The date this action will become effective is October 1, 1995.

ADDRESSES: Requests for copies of documents stated within this Notice as being available upon request should be sent to the National Weather Service, Industrial Meteorology Staff, 1325 East-West Highway, #18462, Silver Spring, Maryland 20910.

FOR FURTHER INFORMATION CONTACT: Edward Gross, 301–713–0258.

SUPPLEMENTARY INFORMATION: Fiscal year 1996 budget proposals include reductions in funding to the National Weather Service (NWS) which will result in the elimination of the following NWS services: Agricultural Weather Services, Fire Weather Services to non-Federal agencies for non-wildfire activities, distribution of weather charts to marine radiofacsimile broadcast stations, and the National Weather Summary. The NWS will be required to terminate products and services in these areas. This statement will notify users of those products and services that they will not be available after September 30, 1995.

The Agricultural Weather Services and Fruit Frost Programs will be eliminated entirely. The following NWS products will no longer be available from the NOAA Weather Wire Service, the Family of Services, or via the NOAA Weather Radio:

Agricultural Weather Forecast

Fruit Frost Forecast
Special Agricultural Weather Advisory
Weather Advisory for Ag Operations
Agricultural Observations
30-day Agricultural Weather Outlook
International Weather and Crop Summary
National Agricultural Weather Highlights
Agricultural Weather Guidance
Cranberry Bog Forecasts

In addition, seven NWS offices providing Agricultural Weather Services exclusively will close. These offices are:

AWSC College Station, Texas
AWSC Stoneville, Mississippi
AWSC Auburn, Alabama
AWSC West Lafayette, Indiana
WSO Yuma, Arizona
WSO Twin Falls, Idaho
WSO Riverside, California

Fire Weather Services to non-Federal agencies will be reduced. The following products and services will no longer be available to state and local fire management agencies:

Spot forecasts for prescribed burning
Spot forecasts for non-fire forest management activities (i.e., spraying, etc.)
Land Management forecasts
Transport and stability forecasts for smoke management
Consultation and liaison for non-wildfire activities

Some offices that provide Fire Weather Services exclusively or a combination of Fire Weather and Agricultural Weather Services may be closed or consolidated. Meteorological support directly related to wildfire suppression will continue to be provided to all agencies. This support includes presuppression forecasts, National Fire Danger Rating System forecasts, fire weather watches, red flag warnings, incident response, and fire weather training for fire fighters.

Currently, the NWS issues marine weather charts and transmits them to six marine radio stations for scheduled broadcast via radiofacsimile over frequencies in the maritime mobile radio spectrum. After September 30, 1995, the NWS will cease transmitting weather charts to the six marine radio stations (station operator noted in parentheses), as follows:

NMF—Marshfield, Massachusetts (U.S. Coast Guard)
NMC—Pt. Reyes, California (U.S. Coast Guard)
NOJ—Kodiak, Alaska (U.S. Coast Guard)
WLO—Mobile, Alabama (Mobile Marine Radio, Inc.)
KVM70—Honolulu, Hawaii (Federal Aviation Administration)
WLC—Rogers City, Michigan (Central Radio, Inc.)

The NWS will continue issuing the marine weather charts in conjunction with U.S. obligations under the International Convention for Safety of Life at Sea. Private-sector vendors (including the private marine radio stations WLO and WLC listed above) may access the charts from the NWS at no cost to the Government and disseminate them to the maritime community via radiofacsimile broadcast or other methods.

The U.S. Navy broadcasts weather charts (produced by Naval meteorological echelons) from Cutler, Maine, (NAM); Pearl Harbor, Hawaii, (NPM); and Guam (NPN). Although intended for fleet support, these broadcasts are accessible by civilian users over open radio frequencies. These broadcasts will continue beyond October 1, 1995, as plans for conversion to encrypted fleet broadcasts have been delayed.

The NWS will also cease production of the National Weather Summary.

In order to ensure a smooth transfer of these products and services to the private sector, the *Directory of U.S. Private Weather Services* has been published. The Directory is intended as information with no implied endorsements. Requests for further information can be addressed directly to the individuals or companies. The names, addresses, and phone numbers in the Directory represent an initial compilation of private-sector

meteorologists, as well as private weather service companies that provide commercial agricultural weather services and basic forecasting services which could also serve the needs of the non-Federal wildfire area community. The American Meteorological Society, the National Weather Association, and the Commercial Weather Services Association provided private-sector individuals and companies from their respective memberships. This Directory will be updated in the coming months as new listings and corrections are received and may be obtained from the address above.

Dated: July 28, 1995.

Elbert W. Friday, Jr.,

Assistant Administrator for Weather Services.

[FR Doc. 95–16376 Filed 7–3–95; 8:45 am]

BILLING CODE 3510–12–M

Agency Form Under Review by the Office of Management and Budget

BILLING CODE 3510–07–F

COMMITTEE FOR THE IMPLEMENTATION OF TEXTILE AGREEMENTS

Announcing Settlement on an Import Limit and a Guaranteed Access Level for Certain Cotton and Man-Made Fiber Textile Products Produced or Manufactured in Jamaica

AGENCY:

ACTION:

EFFECTIVE DATE:

FOR FURTHER INFORMATION CONTACT:

SUPPLEMENTARY INFORMATION:

Authority:

Organizational Contacts

National Weather Service Headquarters

Paul Stokols
NWS Fire Weather Program Leader (W/OM12)
1325 East West Highway, SSMC2
Silver Spring, MD 20910

National Weather Service Eastern Region Headquarters

Harvey Thurm
NWS Eastern Region Fire Weather Program Leader (W/ER1x4)
Airport Corporate Center
630 Johnson Avenue
Bohemia, NY 11716-2626

National Interagency Fire Center (NIFC)

Larry Van Bussum
Staff Meteorologist to NIFC
NWS Boise
3833 S. Development Avenue
Boise, ID 83705-5354

NWS Forecast Offices

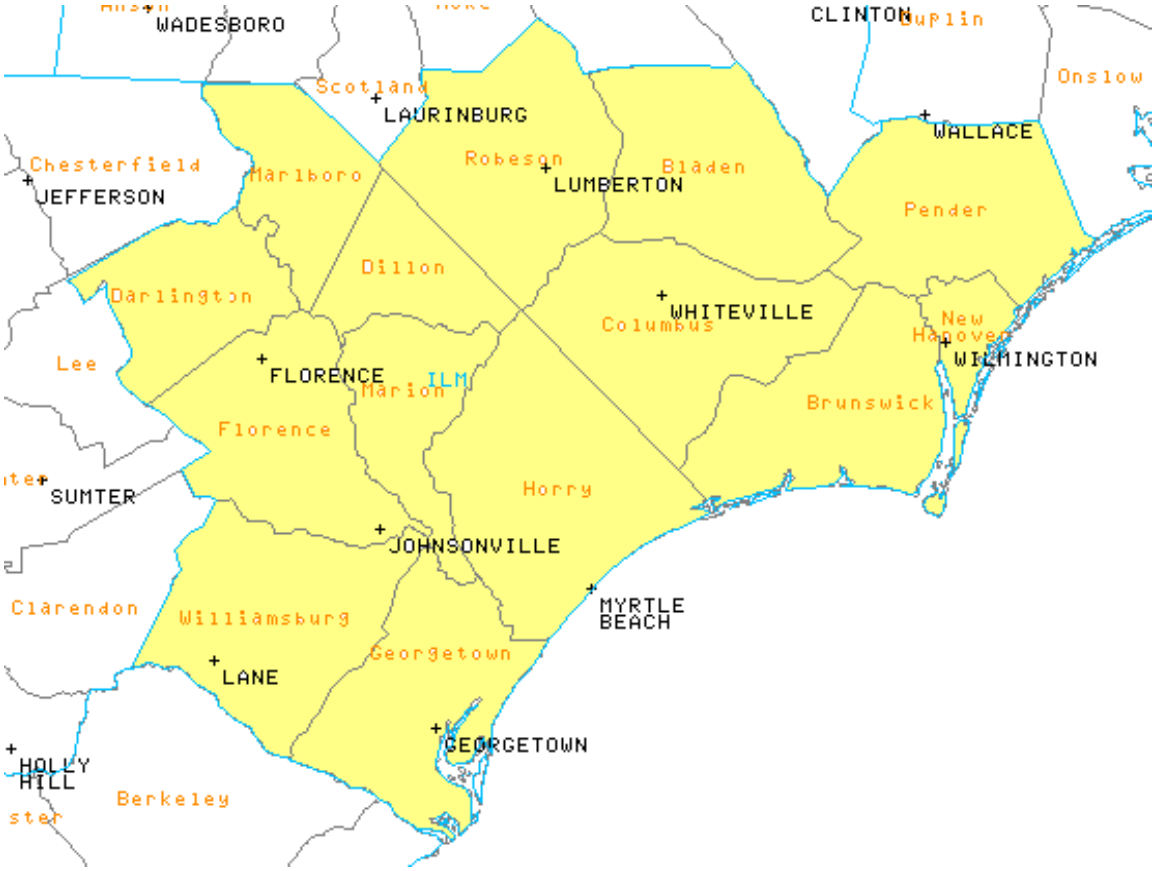
Stephen C. Wilkinson
Fire Weather Program Leader
NWS Charleston
5777 South Aviation Avenue
Charleston, SC 29406

Jim Merrell
Fire Weather Program Leader
NWS Newport
53 Roberts Road
Newport, NC 28570

Bruce Cherry
Fire Weather Program Leader
NWS Columbia
2909 Aviation Way
West Columbia, SC 29210-2102

Phil Badgett
Fire Weather Program Leader
NWS Raleigh
1005 Capability Drive, Suite 300
Raleigh, NC 27606

Map of the NWS ILM Forecast Area



SAMPLE MORNING PRE-SUPPRESSION FORECAST

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FNUS52 KILM 101325
FWFILM

FIRE WEATHER FORECAST
NATIONAL WEATHER SERVICE WILMINGTON NC
822 AM EST SUN DEC 10 2000

.DISCUSSION...
A COOL WEDGE OF HIGH PRES WILL REMAIN ACROSS THE CENTRAL CAROLINAS
TODAY. LOW PRES WILL DEVELOP OFF THE COAST AND MOVE NORTH OF
THE AREA TONIGHT. HIGH PRESSURE WILL BUILD IN FROM THE NORTHWEST ON
MONDAY.

NCZ087-096-SCZ017-023-024-032-033-039-102354-
BLADEN-DARLINGTON-DILLON-FLORENCE-MARION-MARLBORO-ROBESON-
WILLIAMSBURG-
822 AM EST SUN DEC 10 2000

                         TODAY       TONIGHT          MON
CLOUD AMOUNT              CLDY          CLDY         CLDY
PRECIP CHC (%)               5            10           10
PRECIP TYPE               NONE          NONE         NONE
MAX/MIN TEMP                47            43           59
AM WIND                   N 10                       E 5
PM WIND                    N 8          NE 2         S 12
PRECIP AMOUNT          .01-.10             0            0
PRECIP DURATION              0             0            0
HUMIDITY (%)                76           100           67
DSI                          1            --            1
INVERSION                 NONE          NONE         NONE
MIXING HGT                1000            --         2000
TRANSPORT WIND           NE 10         -- --        SE 10
VENTILATION RATE         10000            --        20000
REMARKS...NONE
$$

NCZ097-099>101-SCZ034-046-102354-
BRUNSWICK-COLUMBUS-GEORGETOWN-HORRY-NEW HANOVER-PENDER-
822 AM EST SUN DEC 10 2000

                         TODAY       TONIGHT          MON
CLOUD AMOUNT              CLDY          CLDY         CLDY
PRECIP CHC (%)              10            10           10
PRECIP TYPE               NONE          NONE         NONE
MAX/MIN TEMP                53            47           62
AM WIND                   N 10                       E 5
PM WIND                   NE 8           N 5        SE 10
PRECIP AMOUNT          .01-.10             0            0
PRECIP DURATION              0             0            0
HUMIDITY (%)                66           100           63
DSI                          1            --            1
INVERSION                 NONE          NONE         NONE
MIXING HGT                1000            --         2000
TRANSPORT WIND           NE 10         -- --        SE 10
VENTILATION RATE         10000            --        20000
REMARKS...NONE
$$

.FORECAST EXTENDED...
.MONDAY NIGHT...MOSTLY CLOUDY.  LOWS IN THE LOWER 50S.
.TUESDAY...PARTLY CLOUDY WITH A CHANCE OF SHOWERS.  WARMER AND
BREEZY.  HIGHS IN THE UPPER 60S.
.WEDNESDAY...TURNING COOLER WITH RAIN LIKELY.  LOWS IN THE LOWER 40S
AND HIGHS NEAR 50.
.THURSDAY...CLOUDY WITH A CHANCE OF RAIN DURING THE DAY...THEN PARTLY
CLOUDY.  LOWS NEAR 40 AND HIGHS IN THE MID 50S.
.FRIDAY...PARTLY CLOUDY.  LOWS AROUND 40.  HIGHS IN THE MID 50S.
.SATURDAY...MOSTLY CLOUDY WITH A SLIGHT CHANCE OF RAIN.  LOWS AROUND
40.  HIGHS AROUND 60.


.OUTLOOK 8 TO 14 DAY...
TEMPERATURE NEAR NORMAL. PRECIPITATION NEAR NORMAL.
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...TABLE ON PAGE E3 INSERTED HERE...

NNNN

SAMPLE AFTERNOON PRE-SUPPRESSION FORECAST

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FNUS52 KILM 102009
FWFILM

FIRE WEATHER FORECAST
NATIONAL WEATHER SERVICE WILMINGTON NC
305 PM EST SUN DEC 10 2000

.DISCUSSION...
A COOL WEDGE OF HIGH PRES WILL REMAIN ACROSS THE CENTRAL
CAROLINAS  INTO MIDDAY MONDAY. LOW PRES WILL DEVELOP OFF THE
COAST AND MOVE NORTH OF  THE AREA TONIGHT.

NCZ087-096-SCZ017-023-024-032-033-039-110801-
BLADEN-DARLINGTON-DILLON-FLORENCE-MARION-MARLBORO-ROBESON-
WILLIAMSBURG-
305 PM EST SUN DEC 10 2000

                      TONIGHT          MON    MON NIGHT         TUE
CLOUD AMOUNT          MO CLDY         CLDY         CLDY     MO CLDY
PRECIP CHC (%)             10           20           10          50
PRECIP TYPE           DRIZZLE      DRIZZLE         NONE        NONE
MAX/MIN TEMP               38           58           52          64
AM WIND                               NW 2                     SE 15
PM WIND                  N 2          NW 8        SE 10       SE 20
PRECIP AMOUNT              0            0            0           0
PRECIP DURATION            0            0            0           0
HUMIDITY (%)             100           59          100          52
DSI                       --            1           --           1
INVERSION                 --            8           --          18
MIXING HGT                --         1200           --        3000
VENTILATION RATE          --         9600           --       54000
TRANSPORT WIND         -- --           NE        -- --          NW
REMARKS...NONE
$$

NCZ097-099>101-SCZ034-046-110801-
BRUNSWICK-COLUMBUS-GEORGETOWN-HORRY-NEW HANOVER-PENDER-
305 PM EST SUN DEC 10 2000

                      TONIGHT          MON    MON NIGHT         TUE
CLOUD AMOUNT             CLDY         CLDY         CLDY     PT CLDY
PRECIP CHC (%)             10           20           10          50
PRECIP TYPE           DRIZZLE      DRIZZLE         NONE        NONE
MAX/MIN TEMP               40           62           54          65
AM WIND                               N 2                     SW 15
PM WIND                 NW 2          N 8        SW 10       SW 20
PRECIP AMOUNT              0            0            0           0
PRECIP DURATION            0            0            0           0
HUMIDITY (%)             100           55          100          49
DSI                       --            1           --           1
INVERSION                 --            8           --          18
MIXING HGT                --         1500           --        3000
TRANSPORT WIND         -- --           NE        -- --          NW
VENTILATION RATE          --        12000           --       54000
REMARKS...NONE
$$

.FORECAST EXTENDED...
.TUESDAY NIGHT...PARTLY CLOUDY AND BREEZY.  LOWS IN THE UPPER 30S.
.WEDNESDAY...BECOMING CLOUDY.  A CHANCE OF RAIN FROM EARLY AFTERNOON
ON.  COOLER.  HIGHS NEAR 50.
.THURSDAY...MOSTLY CLOUDY.  A CHANCE OF SHOWERS DURING THE DAY.  LOWS
IN THE MID 40S AND HIGHS NEAR 60.
.FRIDAY...PARTLY CLOUDY.  LOWS IN THE UPPER 30S AND HIGHS IN THE MID
50S.
.SATURDAY...PARTLY CLOUDY WITH A CHANCE OF RAIN. LOWS NEAR 40. HIGHS
NEAR 60.
.SUNDAY...PARTLY CLOUDY WITH A CHANCE OF RAIN. LOWS IN THE LOWER 40S.
HIGHS IN THE LOWER 60S.


.OUTLOOK 8 TO 14 DAY...
TEMPERATURE NEAR NORMAL. PRECIPITATION NEAR NORMAL.

...TABLE ON PAGE E3 INSERTED HERE...

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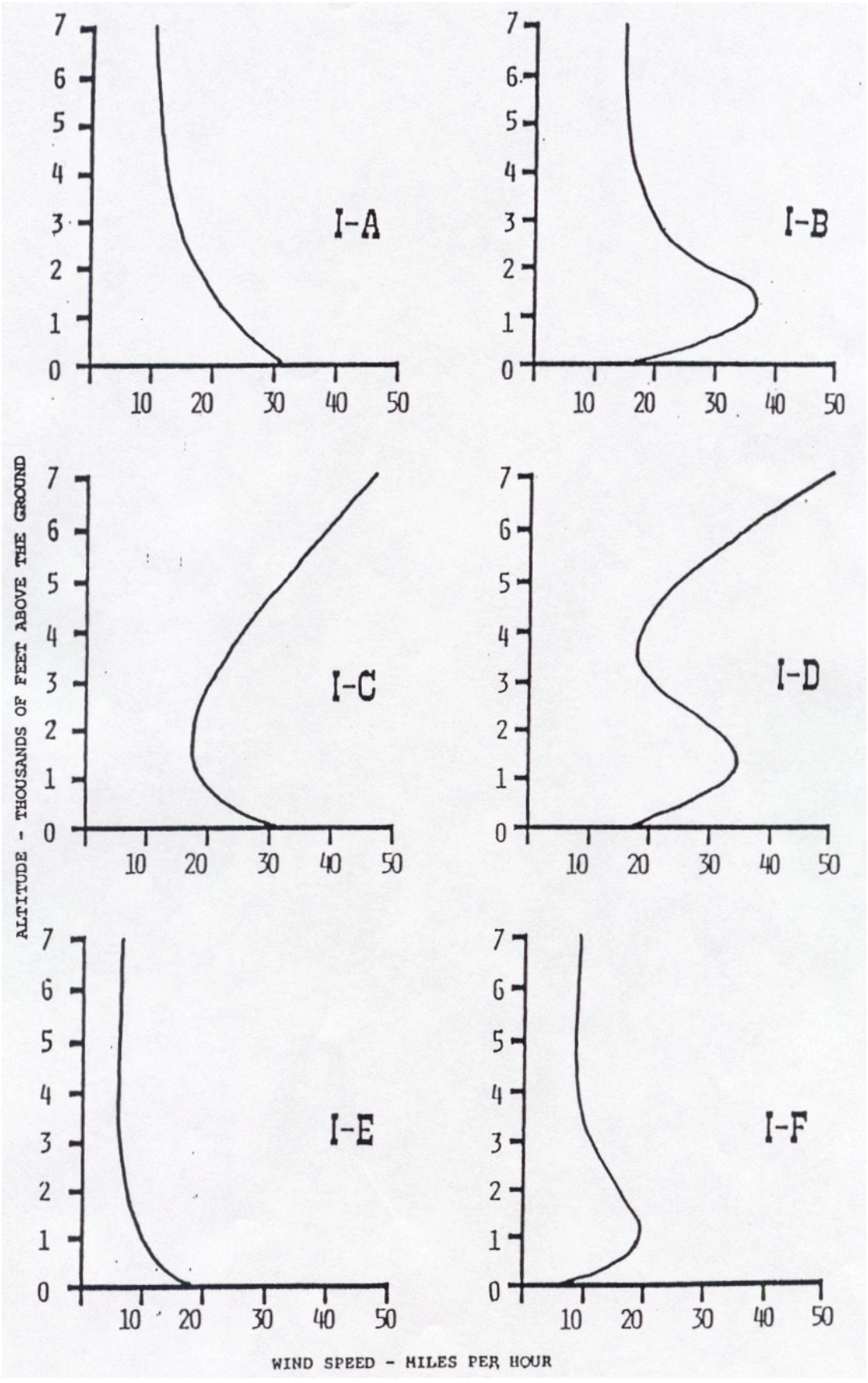
SC USERS		NC USERS
VENTILATION RATE(FT/MPH)	BURN CATEGORY	VENTILATION RATE (FT*MPH)
0 TO 17249	1	0 TO 33499
17250 TO 34499	2	33500 TO 44999
34500 TO 51749	3	45000 TO 59999
51750 TO 68999	4	60000 TO 111999
69000 OR GREATER	5	112000 OR GREATER

SC USERS		NC USERS
FORECAST SURFACE WIND	DISPERSION	FORECAST SURFACE WIND
	STAGNANT	NEAR CALM
CALM	VERY POOR	2 TO 4 MPH
2 TO 5 MPH	POOR	5 TO 8 MPH
6 TO 8 MPH	FAIR	9 TO 12 MPH
9 TO 13 MPH	GOOD	GREATER THAN 12 MPH
14 MPH OR MORE	EXCELLENT	

KEY TO ADVERSE WIND PROFILES



Spot Forecast Request Form D-1

See the last page of this document for a copy of Form D-1 which can be photocopied for operational use.

NWS Red Flag Criteria

At least two of the following must be occurring or be forecast to occur:

1. Sustained surface wind of 20 mph or greater for a significant duration during the forecast period (roughly 6 hours or more).

2. Significant wind shift (front, sea breeze, etc.) during a period of active fire suppression efforts.

3. Minimum relative humidity of 25 percent or lower.

4. Strong potential for lightning, especially after an extended hot and dry period or when dry lightning (little or no rain) is expected.

Since many combinations of weather and fuel conditions can lead to a Red Flag Event, these criteria serve merely as guidelines with which a forecaster can assess the meteorological conditions which might lead to extensive wildfire occurrences or to extreme fire behavior. Therefore, the fire weather forecaster will ALWAYS coordinate with the appropriate land management officials before issuing a Fire Weather Watch or Red Flag Warning. Coordination calls should include discussion of fuel moisture, KBDI's, seasonal concems, and current fire suppression efforts.

SAMPLE RED FLAG WARNING

```
ZCZC RDURFWILM
TTAA00 KILM DDHHMM
RED FLAG WARNING
NATIONAL WEATHER SERVICE WILMINGTON NC
825 AM EDT FRI APR 16 1999

...A RED FLAG WARNING IS IN EFFECT FOR NORTHEAST SOUTH CAROLINA AND SOUTHEAST NORTH CAROLINA FOR STRONG
WEST WINDS AND LOW HUMIDITIES THIS AFTERNOON...

THIS WATCH INCLUDES THE FOLLOWING COUNTIES:

IN NORTH CAROLINA: BLADEN...BRUNSWICK...COLUMBUS...NEW HANOVER... PENDER AND ROBESON.

IN SOUTH CAROLINA: DARLINGTON...DILLON...FLORENCE...GEORGETOWN...HORRY...MARION... MARLBORO AND
WILLIAMSBURG.

A STRONG COLD FRONT WILL DROP INTO THE CAROLINAS FROM THE NORTH TONIGHT.  IN ADVANCE OF THE
FRONT...WEST WINDS OF 20 TO 30 MPH WITH HIGHER GUSTS ARE EXPECTED THIS AFTERNOON.  IN ADDITION...THE
WESTERLY FLOW WILL USHER IN VERY DRY AIR WITH AFTERNOON HUMIDITIES EXPECTED TO BE AROUND 20 PERCENT.

PLEASE ADVISE THE APPROPRIATE OFFICIALS OR FIRE CREWS IN THE FIELD OF THIS RED FLAG WARNING.

TWF

NNNN
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SAMPLE RED FLAG WARNING CANCELLATION

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ZCZC RDURFWILM
TTAA00 KILM DDHHMM
RED FLAG WARNING CANCELLATION
NATIONAL WEATHER SERVICE WILMINGTON NC
200 PM EDT FRI APR 16 1999

...RED FLAG WARNING FOR NORTHEAST SOUTH CAROLINA AND SOUTHEAST NORTH CAROLINA CANCELLED...

A STRONG COLD FRONT HAS STALLED OVER THE MID-ATLANTIC REGION...WELL NORTH OF THE AREA.  THE FRONT IS
EXPECTED TO BEGIN MOVING SOUTH AGAIN TONIGHT.  STRONG WESTERLY WINDS OF 20 TO 30 MPH ARE STILL EXPECTED
IN ADVANCE OF THE FRONT BUT RELATIVE HUMIDITY VALUES ARE EXPECTED TO RECOVER TO AROUND 40 PERCENT
BEFORE THE ONSET OF THE STRONG WINDS.

TWF

NNNN
```

SAMPLE FIRE WEATHER WATCH

```
ZCZC RDURFWILM
TTAA00 KILM DDHHMM
FIRE WEATHER WATCH
NATIONAL WEATHER SERVICE WILMINGTON NC
825 AM EDT MON APR 19 1999

...A FIRE WEATHER WATCH IS IN EFFECT FOR ALL OF SOUTHEAST NORTH CAROLINA AND NORTHEAST SOUTH CAROLINA
FOR TUESDAY AFTERNOON FOR STRONG SOUTHWEST WINDS AND LOW HUMIDITIES...

THIS WATCH INCLUDES THE FOLLOWING COUNTIES:

IN NORTH CAROLINA: BLADEN...BRUNSWICK...COLUMBUS...NEW HANOVER...PENDER AND ROBESON.

IN SOUTH CAROLINA: DARLINGTON...DILLON...FLORENCE...GEORGETOWN...HORRY...MARION... MARLBORO AND
WILLIAMSBURG.

A STRONG COLD FRONT IS EXPECTED TO MOVE INTO THE CAROLINAS FROM THE NORTHWEST ON TUESDAY.  STRONG
SOUTHWEST WINDS AND LOW HUMIDITIES ARE EXPECTED AHEAD OF THE FRONT TUESDAY AFTERNOON.

PLEASE ADVISE THE APPROPRIATE OFFICIALS OR FIRE CREWS IN THE FIELD OF THIS FIRE WEATHER WATCH.

TWF

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SAMPLE FIRE WEATHER WATCH CANCELLATION

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ZCZC RDURFWILM
TTAA00 KILM DDHHMM
FIRE WEATHER WATCH CANCELLATION
NATIONAL WEATHER SERVICE WILMINGTON NC
825 AM EDT TUE APR 20 1999

...FIRE WEATHER WATCH FOR ALL OF SOUTHEAST NORTH CAROLINA AND NORTHEAST SOUTH CAROLINA CANCELLED...

A STRONG COLD FRONT IS EXPECTED TO MOVE INTO THE CAROLINAS FROM THE NORTHWEST ON THIS AFTERNOON.
STRONG SOUTHWEST WINDS HAVE ALREADY DEVELOPED AHEAD OF THE FRONT AND HAVE RETURNED ENOUGH MOISTURE TO
THE AREA TO KEEP AFTERNOON HUMIDITY VALUES ABOVE 25 PERCENT.

TWF

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WS FORM D-1
(12-86)
Pres. By WSOM D-41

FIRE WEATHER SPECIAL FORECAST REQUEST

(See reverse for instructions)

U.S. DEPARTMENT OF COMMERCE
NOAA
NATIONAL WEATHER SERVICE

I - REQUESTING AGENCY WILL FURNISH:

1. NAME OF FIRE OR OTHER PROJECT	2. CONTROL AGENCY	3. REQUEST MADE	
		TIME+	DATE

4. LOCATION (by 1/4Sec-Sec_Twp-Range)	5. DRAINAGE NAME	6. EXPOSURE (NE,E,SE,etc.)

7. SIZE OF PROJECT (Acres)*	8. ELEVATION*		9. FUEL TYPE	10. PROJECTION ON:
	TOP	BOTTOM		☐ GROUND ☐ CROWNING

11. **WEATHER CONDITIONS AT PROJECT OR FROM NEARBY STATIONS** (See Example on reverse)

PLACE	ELE-VATION	OB TIME+	WIND DIR. - VEL.		TEMP.		++(Lv.Blank)		REMARKS (Indicate rain, thunderstorms, etc. Also wind condition and 10ths of cloud cover)
			20 FT	EYE LEVEL	DRY	WET	RH	DP	

12. **SEND FORECAST TO:**	PLACE	VIA: FAX PHONE	ATTN: (Name, if applicable)

II. FIRE WEATHER FORECASTER WILL FURNISH:

13. FORECAST AND OUTLOOK:
(Specify Wind - 20 foot or Eye Level)

TIME+ AND DATE:

NAME OF FIRE WEATHER FORECASTER	FIRE WEATHER OFFICE WILMINGTON, NC

III - REQUESTING AGENCY WILL COMPLETE UPON RECEIPT OF FORECAST

IV - FORECAST RECEIVED:	TIME +	DATE	NAME

EXPLANATION OF SYMBOLS

+ Use 24-hour clock to indicate time. Example: 10:15 p.m. = 2215 a.m. = 1015
* For concentrations (as groups of lightning fires) specify "concentration"; then give number of fires and size of largest. If concentrations are in more than one drainage, request special forecast for each drainge.
++No entry necessary. To be computed by Fire Weather Forecaster